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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

EDELMAN, BRADLEY E

ART UNIT	PAPER NUMBER
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2153

7

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/748,849

Applicant(s)

HARADA, YOSHIHISA

Examiner

Bradley Edelman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3-6. 6) ☐ Other: _____

DETAILED ACTION

This is a first Office action on the merits of this application. Claims 1-17 are presented for examination.

Specification

1. The disclosure is objected to because of the following informalities:

The specification contains numerous grammatical errors that render the subject matter of the specification difficult to understand. It appears that this is a result of the translation process from Japanese to English. Some examples are as follows:

“That is, the load receiving at the server 1 is limited to the designated value at the input port being the shaper 11.” See p. 7, line 30 – p. 8, line 2.

“The processing unit with storage 13 executes a receiving process for the remaining data that the received data being exceeded the shaper value are discarded from the total received data.” See p. 8, lines 14-16.

“For example, in case that the receiving capacity of the processing unit with storage 13 in the server 1 is defined to be the same that the amount of communication data that 20 clients 2a to 2t transfer data to the server 1 at the same time.” See p. 9, lines 2-5.

These and any additional errors throughout the specification must be corrected.

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Note: Although Examiner had a difficult time understanding certain details of Applicant's invention based on the language structure of the disclosure, Examiner did understand the general idea of the invention as including a server, a network, and clients that access the server through the network, wherein the server sets a threshold load value ("shaper" value) and determines whether or not to accept additional client requests depending on whether the load at the server has reached that threshold value. The claim rejections below are based on this interpretation.

2. Claims 4, 5, 10, 12, and 14 are objected to because of the following informalities. Appropriate correction is required.

In considering claim 4, the phrase "said shaper means discards a part of said received data being exceeded said received load by said judged result," contains incorrect grammar. It appears the term "being exceeded" should read "exceeding."

In considering claim 5, the overall grammatical structure of the claim renders the claim confusing.

In considering claim 10, claim 10 contains a grammatical error in lines 3-4, which state "a server connecting to said plural clients through said network, wherein: said server, comprising:".

In considering claim 12, the overall grammatical structure of the claim renders the claim confusing.

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In considering claim 14, claim 14 contains a grammatical error in lines 2-3, which state "a server connects to a plurality of clients through a network, wherein: said server comprising the steps of:". In addition, lines 8-9 contain a grammatical error, "discarding a part of said received data being exceeded said shaper value." It appears the term "being exceeded" should read "exceeding."

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 3, 5, 6, 8-10, 12, 13, and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In considering claim 1, the claim contains language that renders the claim ambiguous. For instance, lines 5-6 of the claim state "a judging means for judging whether a part of said received data is discarded or not." The term "is discarded" appears to be incorrectly worded. As stated, it requires that data be discarded before it is received, which does not make sense in the context of Applicant's invention. It appears that the term should read "should be discarded."

Furthermore, lines 7-8 of claim 1 state "said server controls said received load caused by said received data transferred from said plural clients by said judged result." At the very least, the last phrase "by said judged result" is ambiguous because it is not clear as to what this phrase modifies.

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In considering claim 3, lines 6-7 of the claim, the phrase "and judging whether a part of said received data transferred from said plural clients is discarded or not," is unclear. The term "is discarded" appears to be incorrectly worded. As stated, it requires that data be discarded before it is received, which does not make sense in the context of Applicant's invention. It appears that the term should read "should be discarded."

In considering claim 5, the term "early" on line 6 of the claim is a relative term that renders the claim indefinite. The term is not defined by the claim, and the specification does not provide a standard for ascertaining the requisite degree. Thus, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In addition, regarding claim 5, the overall grammatical structure of the claim renders the claim confusing.

In addition, the use of the parenthetical "(packet)" on line 4 of the claim renders the claim ambiguous. The term "data" and the term "packet" have different meanings and different scope. Thus, when the claim states, "part of said received data (packet)," it is not clear whether the claim refers to part of the data, part of a packet, or both.

In considering claim 6, the use of the parenthetical "(packet)" on lines 4 and 6 of the claim renders the claim ambiguous. The term "data" and the term

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"packet" have different meanings and different scope. Thus, when the claim states, "part of said received data (packet)," it is not clear whether the claim refers to part of the data, part of a packet, or both.

In considering claim 8, the phrase "judges whether a part of said received data is discarded or not based on said judged result," is unclear. The term "is discarded" appears to be incorrectly worded. As stated, it requires that data be discarded before it is received, which does not make sense in the context of Applicant's invention. It appears that the term should read "should be discarded."

Claim 9 depends from claim 8 and is thus rejected as well.

In considering claim 10, the phrase "means for comparing the amount of received load caused by received data transferred from plural clients *and* said shaper value," is confusing. It appears that the claim is intended to compare an amount of received load to the shaper value. However, this is not entirely clear from the claim language.

In considering claim 12, the term "early" on line 5 of the claim is a relative term that renders the claim indefinite. The term is not defined by the claim, and the specification does not provide a standard for ascertaining the requisite degree. Thus, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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In addition, regarding claim 12, the overall grammatical structure of the claim renders the claim confusing.

In addition, the use of the parenthetical "(packet)" on line 4 of the claim renders the claim ambiguous. The term "data" and the term "packet" have different meanings and different scope. Thus, when the claim states, "part of said received data (packet)," it is not clear whether the claim refers to part of the data, part of a packet, or both.

In considering claim 13, the use of the parenthetical "(packet)" on lines 4 and 6 of the claim renders the claim ambiguous. The term "data" and the term "packet" have different meanings and different scope. Thus, when the claim states, "part of said received data (packet)," it is not clear whether the claim refers to part of the data, part of a packet, or both.

In considering claim 15, the term "said receiving data" on line 3 of the claim lacks sufficient antecedent basis. Although the claim previously mentions "received data," it does not establish antecedent basis for any "receiving data."

Furthermore, the term "early" on line 7 of the claim is a relative term that renders the claim indefinite. The term is not defined by the claim, and the specification does not provide a standard for ascertaining the requisite degree. Thus, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

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In addition, regarding claim 15, the overall grammatical structure of the claim renders the claim confusing.

Finally, regarding claim 15, the use of the parenthetical "(packet)" on lines 6 and 7 of the claim renders the claim ambiguous. The term "data" and the term "packet" have different meanings and different scope. Thus, when the claim states, "part of said received data (packet)," it is not clear whether the claim refers to part of the data, part of a packet, or both.

In considering claim 16, the use of the parenthetical "(packet)" on lines 6 and 8 of the claim renders the claim ambiguous. The term "data" and the term "packet" have different meanings and different scope. Thus, when the claim states, "received data (packet)," it is not clear whether the claim refers to data, a packet, or both.

In considering claim 17, the phrase "at the outside" is unclear. It appears the claim is intending to require that the shaper value is set by equipment remote from the server. However, the phrase "at the outside," without any further modification, is not clear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 7 is rejected under 35 U.S.C. 102(e) as being anticipated by

Cherkasova et al. (U.S. Patent No. 6,360,270, hereinafter “Cherkasova”).

In considering claim 7, Cherkasova discloses a network system,
comprising:

Plural clients connecting to a network, and a server connecting to the plural clients through the network (col. 3, lines 25-26, “clients” and a “server”; lines 44-46, “web server” and “web clients”);

Wherein said server controls the amount of received load caused by the received data transferred from the plural clients (col. 3, lines 60-67; col. 5, lines 44-57; wherein the server admission controller determines whether the received load (i.e. the load at the server due to received requests) is above a threshold, and based on the determination, decides whether to reject new sessions).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-4, 6, 8-11, 13, 14, 16, and 17 are rejected under 35

U.S.C. 103(a) as being unpatentable over Cherkasova.

In considering claim 1, the claim language has been interpreted to mean the following:

A server, comprising:

Means for determining the amount of received load at the server, wherein the load is caused by received data transferred from a plurality of clients;

Means for comparing the load to a designated value; and

Means, responsive to the comparing step, for determining whether part of the received data should be discarded, thereby controlling the load at the server.

Except for the "discarding" step, these features are taught by Cherkasova in col. 3, lines 60-64 and col. 5, lines 44-57, wherein the server admission controller determines whether the received load (i.e. the load at the server due to received requests) is above a threshold, and based on the determination, decides whether to reject new sessions. However, Cherkasova does not explicitly state that the received data is necessarily "discarded." Instead, the system taught by Cherkasova describes that if the system is above threshold, the excessive messages are "unaccepted" and thus the connections are "refused." Col. 3, lines 30-33, 38-41. Cherkasova additionally discloses that "refused connections often result in aborted sessions." Col. 3, lines 41-42. Thus, while not explicitly using the word "discard", these actions of "refusing," "not accepting," and "aborting," requests or sessions when the load exceeds a threshold at least suggest getting rid of, or discarding, unwanted load caused by the client

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requests. A person having ordinary skill in the art would have readily recognized the desirability and advantages of “discarding” packets instead of deferring them, because immediate discarding of packets would eliminate the need for extra deferral resources at the server. Thus, it would have been obvious for the admission controller in Cherkasova to discard packets when the load is above a threshold, to eliminate the additional resources required for the deferral manager.

In considering claim 2, Cherkasova further discloses that the designated value is set based on a receiving capacity of the server (col. 8, lines 8-9, “number of new sessions that the server can handle with the remaining resources”).

In considering claim 3, the claim language has been interpreted to mean the following:

A server, comprising:

A shaper value setting means for setting a threshold value based on a receiving capacity of said server; and

Shaper means for (1) determining the amount of received load at the server, wherein the load is caused by received data transferred from a plurality of clients; (2) comparing the load to the threshold value; and (3) determining whether part of the received data should be discarded.

Except for the “discarding” step, these features are taught by Cherkasova in col. 3, lines 60-64 and col. 5, lines 44-57, wherein the server admission controller determines whether the received load (i.e. the load at the server due to

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received requests) is above a threshold, and based on the determination, decides whether to reject new sessions. However, Cherkasova does not explicitly state that the received data is necessarily "discarded." Instead, the system taught by Cherkasova describes that if the system is above threshold, the excessive messages are "unaccepted" and thus the connections are "refused." Col. 3, lines 30-33, 38-41. Cherkasova additionally discloses that "refused connections often result in aborted sessions." Col. 3, lines 41-42. Thus, while not explicitly using the word "discard", these actions of "refusing," "not accepting," and "aborting," requests or sessions when the load exceeds a threshold at least suggest getting rid of, or discarding, unwanted load caused by the client requests. A person having ordinary skill in the art would have readily recognized the desirability and advantages of "discarding" packets instead of deferring them, because immediate discarding of packets would eliminate the need for extra deferral resources at the server. Thus, it would have been obvious for the admission controller in Cherkasova to discard packets when the load is above a threshold, to eliminate the additional resources required for the deferral manager.

In considering claim 4, Cherkasova further discloses that the shaper means rejects the part of the received data that exceeds the threshold (col. 5, lines 58-62, wherein unaccepted messages are discarded and sent to the deferral manager). Again, it would have been obvious for the admission controller in Cherkasova to discard packets when the load is above a threshold,

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instead of deferring them, to eliminate the additional resources required for the deferral manager.

In considering claim 6, the claim language is interpreted to mean the following:

A server in accordance with claim 4, wherein:

When a part of the received data is discarded due to the server load exceeding the threshold value, the server selects packets of data to discard based on a quality of service (QoS) and packet priority.

Except for the “discarding” step, this feature is further taught by Cherkasova in col. 3, lines 20-25 (“quality of service”) and col. 5, lines 9-21 (describing that certain message packets are accepted before others, thereby establishing packet priority). Again, it would have been obvious for the admission controller in Cherkasova to discard packets when the load is above a threshold, instead of deferring them, to eliminate the additional resources required for the deferral manager.

In considering claim 8, as understood, Cherkasova further discloses that the server compares the amount of the received load caused by the received data with a designated value, and determines whether a part of the received data should be rejected or not, based on the comparison (col. 5, lines 51-53). Again, it would have been obvious for the admission controller in Cherkasova to discard

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packets when the load is above a threshold, instead of deferring them, to eliminate the additional resources required for the deferral manager.

In considering claim 9, Cherkasova further discloses that the designated value is set by a receiving capacity of the server (col. 8, lines 8-9, "number of new sessions that the server can handle with the remaining resources").

In considering claim 10, claim 10 presents a network system (i.e. a server and plurality of clients connected through a network) for performing the same steps as claim 3. Therefore, because Cherkasova also discloses a network system, the claim is rejected under the same rationale as claim 3.

In considering claim 11, Cherkasova further discloses that the shaper means rejects a part of the received data when the amount of the received load exceeds the threshold value (col. 5, lines 51-53). Again, it would have been obvious for the admission controller in Cherkasova to discard packets when the load is above a threshold, instead of deferring them, to eliminate the additional resources required for the deferral manager.

In considering claim 13, claim 13 presents the same limitation as claim 6, and is thus rejected for the same reasons.

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In considering claim 14, as understood, Cherkasova discloses a received load control method at a network system in which a server connects to plural clients through a network, the server performing the steps of:

Setting a threshold value ("threshold") based on a receiving capacity of the server (col. 5, lines 44-51);

Comparing the amount of received load caused by received data transferred from the plural clients to the threshold value (col. 5, line 51, "if the utilization rises above a specified threshold"); and

Rejecting a part of the received data exceeding the threshold value when the amount of the received load exceeds the threshold value (col. 5, lines 52-53, "reject all new sessions").

However, Cherkasova does not explicitly state that the received data is necessarily "discarded." Instead, the system taught by Cherkasova describes that if the system is above threshold, the excessive messages are "unaccepted" and thus the connections are "refused." Col. 3, lines 30-33, 38-41. Cherkasova additionally discloses that "refused connections often result in aborted sessions." Col. 3, lines 41-42. Thus, while not explicitly using the word "discard", these actions of "refusing," "not accepting," and "aborting," requests or sessions when the load exceeds a threshold at least suggest getting rid of, or discarding, unwanted load caused by the client requests. A person having ordinary skill in the art would have readily recognized the desirability and advantages of "discarding" packets instead of deferring them, because immediate discarding of packets would eliminate the need for extra deferral resources at the server.

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Thus, it would have been obvious for the admission controller in Cherkasova to discard packets when the load is above a threshold, to eliminate the additional resources required for the deferral manager.

In considering claim 16, claim 16 presents a method for performing the same step as described in claim 13, and is thus rejected for the same reasons.

In considering claim 17, the claim has been interpreted to mean that the threshold value can be determined from a system remote from the server. Cherkasova further discloses that the threshold and utilization values can be determined at a proxy server (col. 10, line 55 – col. 11, line 11), and thus discloses this limitation.

6. Claims 5, 12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherkasova, in view of Fodor et al. (U.S. Patent No. 6,438,104, hereinafter "Fodor").

In considering claim 5, the claim language has been interpreted to mean the following:

A server in accordance with claim 4, wherein:

When a packet is discarded due to the server load exceeding the threshold value, the server performs early packet discard on related packets, thereby discarding remaining portions of the data related to the discarded packet.

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Although the system taught by Cherkasova teaches substantial features of the claimed invention, it does not teach this early packet discard feature.

Nonetheless, early packet discard features are well known in load balancing systems, as evidenced by Fodor. Fodor describes a load balancing system for limiting the number of packets received at servers throughout the network, wherein one method used to limit the number of packets is early packet discard (col. 1, line 58 – col. 2, line 8). Given the teaching of Fodor, a person having ordinary skill in the art would have readily recognized the desirability and advantages of using early packet discard for the requests in the system taught by Cherkasova, to eliminate receipt of unnecessary message packets, thereby saving additional bandwidth at the server. Therefore, it would have been obvious to use early packet discard for the data packets taught by Cherkasova.

In considering claim 12, claim 12, presents the same limitation as claim 5, and is thus rejected for the same reasons.

In considering claim 15, claim 15 presents a method for performing the same step as described in claim 12, and is thus rejected for the same reasons.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is (703) 306-3041. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on (703) 305-4792. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

For all correspondences: (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



BE
January 23, 2004